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ABSTRACT

This module on owning and operating a software design company is one of 36 in a series on entrepreneurship. The introduction tells the student what topics will be covered and suggests other modules to read in related occupations. Each unit includes student goals, a case study, and a discussion of the unit subject matter. Learning activities are divided into individual activities, discussion questions, and a group activity. Units (and subject matter) in this module are planning your business (targeted market; special services; programming skills; business skills; legal requirements); choosing a location (questions to ask yourself); getting money to start (business description; statement of financial need; unforeseen expenses; general office costs); being in charge (hiring staff; job descriptions; training staff); organizing the work (writing the program; putting the package together; distribution; user service; work schedule); setting prices (competition; targeted market; break-even point; price changes); advertising and selling (trade magazines; press release; direct mail; computer clubs and fairs); keeping financial records (how to bill; credit; daily cash sheet); and keeping your business successful (profit/loss statement; adding new products). A summary and quiz complete the document. (A teacher's guide is available for this module.) (CT)

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etc Entrepreneurship Training Components

GETTING DOWN TO BUSINESS:

Software Design Company

Module 20

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GETTING DOWN TO BUSINESS:

Software Design Company

Norma Shapiro

May 1981

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TABLE OF CONTENTS

Introduction 1

Unit 1
Planning a Software Design Company 3
Learning Activities 11

Unit 2
Choosing a Location 13
Learning Activities 19

Unit 3
Getting Money to Start 21
Learning Activities 28

Unit 4
Being in Charge 31
Learning Activities 38

Unit 5
Organizing the Work 41
Learning Activities 48

Unit 6
Setting Prices 51
Learning Activities 58

Unit 7
Advertising and Selling 59
Learning Activities 66

Unit 8
Keeping Financial Records 69
Learning Activities 76

Unit 9
Keeping Your Business Successful 79
Learning Activities 86

Summary 89

Quiz 91

INTRODUCTION

How are you going to use your job skills after you finish school?

Have you ever thought about starting your own software design company?

This module describes people who have started and managed software design companies. It gives you an idea of what they do and some of the special skills they need.

You will read about
- planning a software design company
- choosing a location
- getting money to start
- being in charge
- organizing the work
- setting prices
- advertising and selling
- keeping financial records
- keeping your business successful

You will also have a chance to practice some of the things that software design company owners do.

Then you will have a better idea of whether a career as a software design company owner is for you.

Before you read this module, you might want to study Module 1, Getting Down to Business: What's It All About?

When you finish this module, you might want to read
- Module 17, Getting Down to Business: Answering Service;
- Module 18, Getting Down to Business: Secretarial Service;
- Module 19, Getting Down to Business: Bookkeeping Service;
- Module 21, Getting Down to Business: Word Processing Service.

These modules are related to other business and office programs.

UNIT 1

Planning a Software Design Company

Goal: To help you plan your software design company.

Objective 1: Describe the product and market of a software design company.

Objective 2: List three personal qualities the owner might have.

Objective 3: List three qualities that will make your programs sell.

Objective 4: List two of the legal requirements you might have to consider before opening.

Buy and keep track of goods
Organize the work
Set prices
Be in charge of people
Advertise and sell
Plan the business
Keep financial records
Keep the business successful

WHY GO INTO BUSINESS FOR YOURSELF?

Carol Dubin is the founder and owner of Slick Software. Before that, she was a programmer and systems analyst for a large bank. She got a steady paycheck, knew that her job would always be there, and never had to work past 5:00. Why would someone leave all that for the problems and headaches of starting her own business? Here is how Carol tells it.

"The people where I worked thought I was nuts to go into my own business. But they didn't know I had been doing it even while I was working at State Bank. You can't just decide to be a free-lance programmer. Writing a program--a good program that has most of the bugs out of it--takes from four months to two years. And even then, you're not sure that it will sell, that it will make money for you.

"I worked on my first program, The Complete Mailing List, pretty much in my spare time. I didn't give up my job. Since I love designing new software, it wasn't much of a sacrifice or a struggle putting in extra hours on my project.

"In the process of getting my Complete Mailing List on the shelves in the computer stores and advertising it in a couple of trade papers, I met all kinds of people. Those people, called 'contacts' in the business, are very important. I didn't quit my job until I had made enough contacts in the field and knew a lot about the free-lance software business. I didn't quit until The Complete Mailing List had grossed over $15,000.

"I can say this--I would have to be pretty hungry to go back to my old job. The people I have met, the excitement I have felt working out a new program, and the satisfaction of knowing I am making it on my own make that old job seem like a real dead-end."

Planning a Software Design Company

There are many, many small businesses in America. Small businesses can have as few as one worker (the owner) or as many as four workers. A small business owner is "self-employed." Often a whole family works together in a small business.

Let's take a short look at computers. . . . If you already know about computers, you probably know what software is. For those of you who don't, here are a few definitions.

A computer is a machine that can rearrange, store, and process information at a very high speed according to the instructions (called the program) that are fed into it. A microcomputer is a small computer about as big as a typewriter with a portable T.V. on it. It can be bought by anyone who can afford a personal computer. Software is all the different types of programs that are fed into computers. The software for microcomputers comes in many forms. It can be a cassette tape, just like those used for cassette tape recorders, or a floppy diskette, which looks like a small record.

If you had a microcomputer in your home or business (like an Apple II or Radio Shack's TRS-80), you could go to a computer store and buy a program or send for one from a mail order software company. You can think of it as buying records or tapes for your stereo system.

Here is a short list of possible programs. The list has to be short, because a long list could take up a lot of space!

Video games like Star Trek
Casino games like blackjack and poker
Filing
Weather forecasting
Budgets
Accounting and billing

Editing
Scientific calculations
Psychological discussion surveys
Travel and route planning

Someone has to be writing the programs for these new microcomputers. The industry is still in its babyhood. There are not many software companies, less than 100 in the entire United States. As people learn more about what computers can do and design new parts for them, the software keeps changing, too. While this is a brand new type of business, there is no doubt that computers and microcomputers are here to stay. Right now there are over 200,000 home computers in use.

What Is a Software Design Company?

If you own a software design company, you will expect to produce a program package that people will want to buy for their microcomputers. It will include:

- a program that is on a floppy diskette or a cassette tape;
- a manual for the user telling her or him how to use the program and what the program will do; and
- some service agreement that tells the user what he or she should do if the program doesn't work.

Who Is the Targeted Market of Your Program Package?

This is probably the most important question to ask yourself before you write a program. Every successful program has a group of people it is intended to serve. This is called the targeted market. You might decide to make your targeted market businesses, schools, or individuals with hobbies. Are you going to write a backgammon program for beginners under 12? Are you going to write an astronomy program for hobby astronomers who have bought their first telescope? Or will you write an advanced mailing list system for businesses that send out several hundred letters a month?

How Is Your Product Going to Be Special?

Making your program special is probably the second hardest thing to do. To be special your program has to do at least one of these three things: do something no other program has done before and something that users want; do something faster or more efficiently than any other program; or make something easier than it has been done before.

Here are a few basic rules that successful software designers have followed.

Rule #1: Knowing a lot about your subject is more important than knowing how to program it. You really have to know backgammon to make a good backgammon computer program. You have to have complete understanding of mailing list problems to write a program that will solve those problems.

Rule #2: Aim your product with a wide circle of users in mind. A program teaching English-speaking people Spanish will appeal to more users than a program teaching Swedish people Hawaiian. But a program that can correct spelling mistakes in Spanish is even better.

Rule #3: Assume that your user knows nothing about computers, programs, input/output, manuals, or keyboards (the typewriter part of the computer). With the invention of the microcomputer, many people who are buying computers have had no programming or computer experience. Make your program's commands easy to understand. Make your manual a step-by-step guide in simple English.

Will You Like Being the Owner of a Software Company?

Remember, the owner of a software company does not just program! You can learn programming design. You can learn how to write simple manuals for your users. You can learn about advertising and marketing, keeping

records, and hiring people. But will you like it? Here is what some people have to say about the business.

> "People who want to design software and make money at it are basically gamblers. There is a great risk in this business. You write a chess program only to find out that a better one is just out on the market. You write a game for a certain microcomputer and the company making the microcomputer goes out of business. But the people who are in this business, do it because they like being on the crest of the wave, not on the foam after it breaks.
>
> "I love the programming part of this business. But that's only a small part of what you have to do to keep the business going. You have to be a businessperson--you have to write advertising, design the package, meet with computer store owners, and hassle with printers to get your manuals done right. As for myself, I'd love to go back to just programming."

Programming Skill--Where Do You Get It?

If you asked 10 good programmers where they learned to program, you would probably get 10 different answers. You can take courses in some high schools and most colleges and universities. Some people learned because their office or business put a computer in. Some people were fascinated with computers and spent hours teaching themselves. There is no one set way.

Business Skill--Where Do You Learn It?

Working in a small business as a clerk or salesperson is a good way to get business experience. Business courses are also taught at junior colleges and universities. Many business people have learned from

experience. There may be seminars in your community on "How to Open a Small Business" that run anywhere from one day to several weeks.

Legal Requirements and Problems

There are a few standard legal requirements for starting any business.

- To open up a software company, you will have to check with your city to see about a business license.
- For the state and federal government, you will have to keep financial records in order to prepare accurate tax returns.
- As of this writing, computer programs are very much the result of creative energy and cannot be copyrighted or patented. This means that your programs can be copied by anyone who chooses to do so. Most software design firms are putting into their programs instructions that try to make copying impossible.
- Before you begin to sell your program, you will have to look into the current copyright and patent laws that apply to computer programs.

Summary

A software design company produces programs and manuals and offers service for computer programs. Before you write a program you must know who it is going to serve and what problems it is going to solve. You must know all about computer programs and do all the tasks that small business owners do. You will have to check out city, state, and federal laws pertaining to similar small businesses before you begin. You will also need to find out about copyright and patent laws to protect your programs from being pirated.

Learning Activities

Individual Activities

1. Here is a list of skills and personal qualities. Put an XX by those you think would be helpful in owning a small software design company. Put an X by those that would not matter. Put an O by those that would probably not be helpful.

___ a. Need to be outdoors
___ b. Need to have someone tell you what to do
___ c. Being organized
___ d. Able to talk well
___ e. Being tall
___ f. Being physically active
___ g. Able to write well
___ h. Able to work under pressure
___ i. Having good eyesight
___ j. Able to set up a good filing system
___ k. Able to work well with figures
___ l. Liking to solve problems
___ m. Liking to be in charge of other people
___ n. Need a lot of other people around
___ o. Need to be on your own
___ p. Need employee benefits
___ q. Need quiet
___ r. Being patient
___ s. Liking to do paperwork
___ t. Need to be the center of attention
___ u. Need to travel
___ v. Need specific schedules and timetables
___ w. Need specific assignments
___ x. Need to be creative at work
___ y. Be physically attractive
___ z. Liking to be helpful

2. Name two different forms of computer software.

3. Name the three parts of the program package.

4. Why is it important to decide what the targeted market is before you begin to write the program?

5. If you were going to write a chess game, is it more important to understand chess or to understand programming? Why?

Discussion Questions

1. After reading about the beginning of Slick Software, why do you suppose that Carol didn't leave her job right away?

2. Carol Dubin has lots of reasons for enjoying ownership of her own software design company. What are some reasons for NOT liking it?

3. What advantages and disadvantages do you see in the fact that the industry is still so young?

Group Activity

Invite the owner of an independent software company to come to your class. If there are none near you, invite a person in the computer industry to come speak to your class. Find out how you would go about writing a program for a certain problem you pick. Ask your guest questions about the competition in the software design field and how you could go about starting your own business. What skills, training, and personal qualities would you need?

UNIT 2

Choosing a Location

Goal: To help you choose a good location for your company.

Objective 1: List two advantages in living near cities that are computer centers.

Objective 2: List two advantages and disadvantages to working out of your home.

Objective 3: Decide whether your home would be a good place to start your company.

WHERE, OH WHERE, DOES THE COMPUTER GO?

Carol talks about finding the right space for a location. "Many people who open a small business become frustrated trying to decide the best location for their company. It was very easy for me to decide where to locate this company. It started at my computer on the desk in my extra bedroom. Soon my business started to spill out into the dining room and living room. Putting together 100 packages for shipping and laying out the newspaper that had the updates in it started to take over everything. Pretty soon, I converted my garage.

"When it's all said and done, you need at least the size of a small office (about 200 square feet) to get that first program on the market. It can cause real problems for your family if you do everything out of your house. I had no choice. I was not going to put out money for rent before I knew if I was going to make any money. My husband and kids would just have to sacrifice their clean dining room for a while.

"The good part about working out of your home is that your family and friends can help you out. When it comes time to get the package together, there is assembly-type work to be done. Sometimes the manuals run 30 pages or more and need to be collated. I like to put mine in a looseleaf notebook. The family can help with the mailing too."

Choosing a Location

A Computer Can Go Anywhere

Choosing a location in this business is not very important. For most other businesses you would have to spend a great deal of time choosing which city would offer you the most chance of success. Then, of course, you would have to pick a spot within that city.

None of that is important for a software design company. If you think of yourself as a writer, then all that you really need are the tools to write with--namely, the microcomputer and your brain. That does not mean, however, that any place is just as good as any other place.

Where Is the Most Action?

If you talk to most screenwriters (the people who write movies for films and T.V.), you will find that most of them eventually move to Los Angeles or New York. That is where the action is. That is where "business contacts" are made. You learn a lot about the business by being around people who are doing the same thing.

In the software design business the most computer-intense area is in the Santa Clara Valley in northern California (also known as Silicon Valley, because that is where the first silicon chips were invented). There are literally hundreds of computer and computer-related businesses there. You can meet several suppliers of floppy diskettes. You can see other software producers firsthand. It is the computer capital of the world.

Other key cities include Boston, Dallas-Fort Worth, New York, and Houston. New Jersey has quite a few computer companies also.

What If You Live on a Huge Farm in Kansas?

All this doesn't mean you have to live in these cities or even near them to have a software business. Many successful programs have been developed hundreds of miles from a computer store. When it comes to putting the package together, ordering supplies, and selling the programs to dealers, you will have to make contact by telephone and mail rather than eyeball to eyeball. This becomes slightly inconvenient. It also means you may have to wait for mail delivery when you are in a rush.

Can You Eat and Sleep and Program in the Same Place?

The software design company that lives in your home can cause some problems as well as take care of some. Here are some questions to ask yourself.

1. Do you have a separate space that does not double as your kitchen, bedroom, or living room? If you run the chance of mixing up your printouts with your child's math homework, you are in big trouble.
2. Can you separate yourself from typical home distractions? You may enjoy a little chat with your letter carrier every day, but it may not be worth it.
3. How do the other house members feel about your work? If there are people in the house who don't understand your work, you will need to educate them as to your needs before you even turn on your Apple II.

Obvious advantages to working in your home include the price (don't forget the tax deduction), and the convenience. Almost all software designers have begun in their home. The first program is usually done in someone's "spare time" while he or she is holding down another job.

If you decide to rent an office, you can go small. Anywhere that is moderately quiet and pleasant for you to be in is a good bet.

While many software companies have begun small, some have become so successful that they have had to move to much larger offices to accommodate all their marketing, mailing, advertising, and printing activities, as in any successful business.

Summary

A program designer can write programs anywhere there is a microcomputer. It helps to be in the key cities that are already involved in the computer and computer-related businesses. Working in your home can cause some problems as well as take care of some.

Learning Activities

Individual Activities

1. Which sentence is most true?
   a. Being near a city that has computer-related businesses is an advantage.
   b. Working out of your home is always a problem since a business should be in an office.
   c. Meeting people face to face does not really help in this business because you are basically dealing with machines.

2. List two problems that may have to be solved before you can work out of your home.

3. What other activities besides programming would you have to make room for in your home or office?

4. Think carefully about where you live right now. Answer these questions.
   a. Is there a good space for a microcomputer?
   b. Would the other people living with you be helpful if they knew you were going to be starting your own business in the house?
   c. Is there enough office space for office work and manual production?
   d. What do you think will be the major problems and distractions in working in your particular house?

Discussion Questions

1. Some of the major cities that currently have many computer and software related companies are in the Santa Clara Valley, California; Boston; Dallas-Fort Worth; New York; and Houston. Discuss in your class what you know about these cities. Look up in an atlas and other resource books the population, weather, kinds of recreation, and prevalent "lifestyle." If any class members have visited these cities, ask them to share their experiences.

2. From the information you have gathered, choose which location you would move to if you felt that was necessary for the success of your company. State your reasons.

Group Activity

It helps when you are writing a new program to have other programmers around you so they can discuss ideas, work out problems, and generally give support to each other. How much computer activity is in your area? Would you have to do most of your business through the mail? As a class write a list of questions that a person could use to find out how much computer-related activity is in the area. After you write the list of questions, share them with the class. See how many answers you can come up with. Here are a few questions to help you get started.

a. Where are the nearest computer stores that sell hardware? And software?

b. Are there computer classes in your area? Where?

UNIT 3

Getting Money to Start

Goal: To help you plan how to get money for your company.

Objective 1: Write a business description for your business.

Objective 2: Fill out a form showing how much money you will need.

GETTING SEED MONEY

Carol tackles the question of money. "Thank goodness, Slick Software was an easy company to start. I don't mean that it's easy writing good programs. I mean that you don't need much money to get started.

"Once I decided on the name of my company, I realized that I needed (at the very least) some business cards. Pretty soon I wanted an answering service, and I needed some advertising fliers for my first completed package. Then, of course, I had to consider the cost of the computer. I had been using the one at work, but part of going it alone was getting my own hardware. At first I bought an Apple II for less than $1,000. Later on, when I became more successful, I added a printer.

"Even though it takes very little money to start in comparison to other businesses, you do need money to get you through the slow times. And believe me, there are slow times. Even marketing geniuses who understand the computer business better than anyone have flops. So you have to have money behind you to get you through those flops.

"And then there are those general office costs that have a way of adding up. Mailings, equipment, an old desk--these are business costs that you should think about.

"Unfortunately, most banks are not going to lend you money until you are already successful. If you say that you are going into the software design business, they are likely to tell you to come back when you have proven yourself.

"So whom do you get this start-up money from? If you have any savings, that's the first thing you would use. Then you can ask people whom you know, business acquaintances, friends, or relatives to lend you the money, or to become investors. My uncle invested $3,000 when I wanted to do that first advertising. For that, he owned 10% of the business. I bought the computer out of my own savings."

Getting Money to Start

The first step in getting people to lend you money is getting people to believe in you. Everyone, with the possible exception of your mother, will have to see facts to believe that you are a good investment. Before lenders give you any hard, cold cash they will want to find out the answers to these questions.

- Is there a need for your product?
- Are you able to put together good programs?
- Are you able to market your programs?

And you have to answer those questions. The best way to do it is to write a business description.

The Business Description

Most business descriptions tell possible investors how you plan to make your business work and what you are going to do to make sure that their money will make money. After all, that's what an investment is.

Here is Carol's written business description. She wrote it "outline style" so that it would be easier to read.

Name of owner: Carol Dubin

Name of company: Slick Software, Inc.

Product line: Software products for Apple II users. Each package reflects the same high standards that have been used with great success in systems around the world. Current programs include The Complete Mailing List, a highly advanced mailing list maintenance and sorting program,

and Total Word (in progress), a word processing system for handicapped users.

Targeted market: The first program, The Complete Mailing List is for small business users who do direct mail advertising, have large billing files, or do extensive correspondence. Total Word is a word processing system that uses a joystick rather than a keyboard. It is a programming breakthrough for handicapped users who have small motor coordination problems.

Strategy for success: Slick Software products provide the Apple II user with complete, thoroughly documented, easy-to-use software systems at a very low cost. The Complete Mailing List stores mailing lists in a multiple indexed data base. It also includes a sound and x-code, which means that misspelled words and words with similar spellings can be easily located. Total Word will appeal to thousands of people who, up until now, have not been able to work as a word processing specialist due to their handicapping condition.

Just How Much Money Do You Ask For?

The statement of financial need is what you give to your investors along with your business description. It is a list of all the money you will need to start your business and to keep it going until you start making a profit (these are starting expenses). The statement of financial need also lists the money you are planning to put into the business (total money on hand) and the amount you need to borrow (total loan money needed).

You will need to know how much your equipment and your office is going to cost you. Here is some of that information.

Equipment. Trying to describe all the different types of computers that you can use to write your programs is like trying to describe all the different types of automobiles there are in this world. You can

spend as little as $600 for a simple microcomputer system. You can spend as much as several thousand dollars for a component system. Or you can spend any amount between those two extremes.

If you were to go into this business, you would probably spend many hours deciding which computer is the best one for you. This is what you would have to evaluate:

- what it can and cannot do;
- whether it can fit into other systems (flexibility);
- what kind of service you can expect from the vendor (seller);
- how much it costs; and
- how much software has been written for it (because other programs will help you).

When Carol finally bought a microcomputer for her own use, she bought an Apple II. She wanted the extra disk drive, and later she added a display terminal. It had the most software available and was easy to use.

Apple II (by Apple Computer, Inc.), TRS-80 (by Radio Shack), and The Challenger IIP Personal Computer (by Ohio Scientific Instruments) are just three of the many personal computers on the market.

The Fudge Factor

Don't forget about the old "fudge factor." No one can predict the future. How could you have known that the printer doing your fliers was going to go out of business and take your deposit with him? The fudge factor would take care of this. This sort of "tip" that you give yourself prepares you for such calamities. You just add it right into the budget--on top of all your other starting expenses.

General Office Costs

Any office, even one in your garage, takes some start-up costs. Here are some examples of start-up costs.

Item	Range	Comments
Microcomputer	$600 - $5,000 and up	A lot of research is important before you buy.
Rent for Office (first and last month)	$300 - $ 600	$0 if in your own home
Security Deposit	$100 - $ 200	
Utility Deposit (including telephone)	$ 50 - $ 200	$0 if in your own home
Business License	$ 25 - $ 75	
Office Furniture and Other Equipment	$ 0 - $2,000	$0 means you are good at scrounging, begging, and borrowing.
Answering Service	$ 30/month	Very necessary!
Paper and Office Supplies	$100 - $ 400	
Decor (carpets, plants, pictures)	$ 0 - $ 500	You will be spending a lot of time here. The place should make you happy.
Advertising (business cards, fliers, etc.)	$100 - $1,000	A Yellow Pages listing is an absolute necessity.
Employee Salaries (until money comes in)	$ 0 - $4,000	You probably won't be hiring someone for a while.
Owner's Pay During Planning	$ 0 - $3,000	It takes at least one month to get set up.
Fudge Factor	$500 - $1,000	Money for emergencies

Summary

The business description tells people how you plan to make your business work. The statement of financial need is a list of all the money you will need to start your business.

Learning Activities

Individual Activities

1. Write a description of your business. It can be short, but you should think about what kind of program you would like to design. Give it a name. Decide what it will do. Locate your business in your town or city. Here is what you should include.

   Name of owner:
   Address:
   Name of company:
   Product (the type of software):
   The targeted market: Who will buy your software?
   Strategy for success: What will be your specialty?
   What is your initial advertising plan to attract customers?

2. Now that you have a business description, you can begin to write a statement of financial need. It is simply a list of the money you will need. To help you, here is a list of some of the questions you will need to answer. What microcomputer will you buy? Will you rent office space or work out of your home? How much will you use on advertising (see Unit 7)?

   Use the figures given in the previous pages to fill in the statement of financial need on the next page. Once you decide what your starting expenses will be, list the amount you plan to invest (total money on hand) and subtract this figure from the total starting expenses. This gives you the amount you need to borrow.

STATEMENT OF FINANCIAL NEED

Item	Amount
Microcomputer	$_____
Rent Deposit (include security and utility deposit)	$_____
Business License	$_____
Equipment Costs	$_____
Office Furniture	$_____
Paper and Office Supplies	$_____
Legal and Accounting Fees	$_____
Decor	$_____
Advertising	$_____
Owner's Pay During Planning	$_____
Fudge Factor	$_____
TOTAL STARTING EXPENSES	$_____
TOTAL MONEY ON HAND	$_____
TOTAL LOAN MONEY NEEDED	$_____

Discussion Questions

1. One of Carol's friends lent her money but got scared. She wanted her money back, even though they had a contract for two years. What other problems do you imagine could happen when you borrow money from friends? How can you avoid some of those problems?

2. An investor is a person who puts money into a business for a percentage of the profits--in other words, a gambler. A "lender" lends money for a much smaller percentage and expects it to be returned. Which person would you like to get money from?

Group Activity

Role play a situation between John Persons, computer programmer, and his wealthy aunt. John is hoping to get $5,000 from her to start his own softward design business. The terms of the loan are negotiable. One student should take the part of John, and one student should be the aunt. Afterwords, discuss how each student played his or her part.

UNIT 4

Being in Charge

Goal: To help you choose the people who work for you.

Objective 1: List the information needed on a job description.

Objective 2: Choose the best person to work at your service from a list of three.

Objective 3: List two ways to put your new employees at ease.

MOVING TO THE BIG TIME

Carol talks about hiring someone. "Many software companies consist of a self-employed owner who doesn't ever bother hiring employees. These people start out by themselves and stay that way forever. When I decided to hire another person part-time, it was hard for me to figure out why I wanted to do it. I mean, I was handling all the work myself--and doing fine.

"The worst part of the entire business is laying out the user's manual and designing the flier. I know a good idea when I see it, but I don't know how to put it together myself. I also wanted someone who knew a little about computers who could at least field questions about the programs. At first I didn't like advertising, but I got used to it.

"I also wanted some company. After eight or ten hours on the computer, the big numbers start square dancing and the little numbers start to dance. Just being able to turn around and talk to someone is a big help.

"I decided to try to find a bright high school student or someone with some college education. There's some 'teacher' in me. I wanted someone I could teach. I thought a little layout and design experience would be helpful.

"I also wanted someone who had an interesting hobby or an exotic life, something that made the person different from me. When you work with people, you learn a lot about each other. I surely didn't want a carbon copy of myself!

"While all this seems like a lot to expect, I knew there must be someone out there I could hire. When I did find someone, Claudelle, I had more time to program."

Being in Charge

Hiring People to Work for You--a Big Change

Many successful software companies are run just by one person. People operating out of their home usually do it this way." They work for themselves and have no employees. But if you find yourself working later and later every evening and keeping your lunch to a 10-minute yogurt break, it may be time to hire someone else. The added advantage is that you will be able to do the kinds of things that only you, the owner, can do. You can take some time to re-evaluate the market. You can think about new products. And, perhaps, you can take a little vacation without coming back to a mountain of paperwork.

As you probably know, there is a lot more to think about when you become an "employer," or a boss of other people. There is more paperwork--social security, income tax forms, pay checks, hourly reports. For another thing, you have to learn how to "be in charge." You have to decide hours, pay wages, and benefits and handle employee problems.

Most companies pay by the hour. An average is $4-$7 an hour for a beginning layout assistant, depending on experience. Benefits are up to you. While you can get away without paying sick leave and vacation pay, these are no longer considered "extras." You may want to wait for a trial period to make sure the new person will work out.

Then, of course, you have to establish an employer-employee relationship. That's different from being friends because you, and only you, are the one responsible for the success of the business. When someone does a poor job, you have to be able to tell the person. It is hard to do that if you see the two of you as "friends."

You have to deal with people asking for raises, or quitting, or always being late. All business owners handle these issues differently, but how you do it can make a big difference.

Who Will Fill Your Needs?--Writing the Job Description

The first step in hiring someone is to write a job description. Listing the qualities you want in an employee is a good way to begin. This is the list Carol wrote when she was looking for her assistant:

1. must have some programming experience in BASIC;
2. must be able to type and help with layout and design of user's manual;
3. must answer the telephone and do general office work as needed; and
4. must be friendly.

Here is the completed job description Carol wrote.

FULL-TIME POSITION AVAILABLE FOR LAYOUT ASSISTANT AND GENERAL OFFICE WORKER FOR COMPUTER SOFTWARE COMPANY

Duties: Help lay out and design user's manuals, answer telephones and field questions, and do other general office work.

Requirements: Must be able to do simple layout and design work. Must be able to type 40 wpm. Must have some knowledge of programming in BASIC.

Personal: Must be reliable. Must like a friendly office.

Salary: $5.50 an hour (negotiable)

Hours: 40 hours/week (flexible)

Job-sharing is possible.

Slick Software, Inc.
Carol Dubin
449-8876

Eeny-Meeny-Miny WHO?

Selecting the right person results from a careful examination of those who apply. Involving someone who has more business experience than you do can be very helpful. Your decision should be based on information you get from:

1. the application form;
2. your interview with the applicant; and
3. the applicant's work references.

Training the New People

Once you have chosen someone, the training process begins. If you can remember what it is like to start a new job, you probably will be a good boss. If you are like most people, you were slightly (or more than slightly!) nervous. It seemed as if there was too much information to remember, and too much time to forget it. You had a lot of questions and felt a little silly or somewhat stupid asking them.

Give your worker something simple to do, not your most important advertising flier to design. Don't peer over the employee's shoulder, but check his or her work from time to time. Also, talk about careful work ideas more than speed.

A Last Word

Although being a good boss is only one of a business owner's responsibilities, it is central to success. You have to work at "keeping your employees happy" everyday. This relates to giving clear instructions, reacting to their work performance, and handling conflicts. When the people who work for you feel good about their work, you will discover the personal rewards of having your own business.

Summary

As a business owner, you may find your self overworked and need to hire an employee. To find the right person, you will need to write a job description, which includes duties, requirements, and salary. You will need to look at completed applications, check work references, and have interviews before you decide whom to hire.

You will probably be a good boss if you train your employees well and keep communication lines open every day.

Learning Activities

Individual Activities

1. Carol sent her job description to the local high school and junior colleges because she wanted to work with young people. Name two other places you can advertise an available position.

2. Carol did not put her address on the job description. Do you think this was a good idea? Why, or why not?

3. Carol said she wanted someone with an "interesting hobby or exotic life." Would this be important to you when hiring a person to work for you? Why do you think this is important to Carol?

4. Here are the applications of three people who applied for a job with your company. After you spoke with each of them, you wrote down what you had learned in the interview. If this was all you had to go on, whom would you hire? Give reasons for your choice.

   Name: Sharon Shasta
   Education: Graduated from Union High School
   Business major, one year of programming

   Work Experience: One year--sales clerk in a hardware store
   One year--busgirl in a restaurant

   Math Test: 82%
   Personal Characteristics: Very outgoing. Some design experience. Average handwriting.

Name: Roberta Barth

Education: Graduated from Union High School
Math Major
Completed one year of junior college

Work Experience: None

Math Test: 96%

Personal Characteristics: No design experience. Very eager to learn. Very shy. Good handwriting. Uses wheelchair.

Name: Sue Chow

Education: Senior at Union High School
Math major--two years of special programming classes

Work Experience: Cashier and bookkeeper's assistant in small clothing store for two years

Math Test: 100%

Personal Characteristics: Missed 20 days of school due to illness. Good handwriting. Paints porcelain figurines. Father owns an Apple II computer.

Discussion Questions

1. Your new employee is doing a great job. You have noticed lately that he is very friendly on the phone with one of your store owners. He keeps asking you about her. She also seems to be interested in him. How do you handle it?

2. After going over some of the layout work of your new employee, you notice all the photographs are the wrong size. She is just about to leave for the day, and you know that she has an important date that evening. How do you handle it?

3. Carol was willing to have her new employee job share--this means that two people could work part-time on the same job. Can you think of advantages and disadvantages to this type of arrangement?

Group Activity

How would you fire someone? "Good-bye" is usually not enough. Many people have realized, after they have let someone go, that they created a lot of bad feelings when they didn't have to. As a class, write a list of "Do's" and "Don'ts." Here are some questions for ideas. What would you do about termination pay? How much notice would you give? Would you tell the person why he or she was being fired?

UNIT 5

Organizing the Work

Goal: To help you organize the work of your software design company.

Objective 1: List the five steps in designing a program.

Objective 2: List three factors in deciding on a work schedule.

COMPUTER
PROGRAMMING

TO MARKET, TO MARKET

Carol talks about what the business looks like on a day-to-day basis.

"When I am asked what I do on a day-to-day basis, I usually invite the person asking the question to have a seat and watch me. Sometimes I feel like a yo-yo, or maybe it's more like an octopus. In one day I might do 50 or 60 little things. Or I might spend five or six hours (or five or six days, or five or six months) working out one little bug. I get interrupted by the phone, by the doorbell, and by the street cleaners who don't realize that I'm trying to work.

"I still have a 'self-contained' business. That means that I do everything. I decide what I want my new program to do, program it, write the manual, and get it packaged. I do the advertising, sell and distribute it, and take the telephone calls from users who are having problems.

"Many programmers like to turn parts of the operation over to other people. But there are still people like me who can manage the entire operation with the help of key assistants and not have to divide the profits. I happen to like running the whole business, but I sure can't produce as many good programs as fast as programmers who simply give the program to software publishers to handle all the production and distribution.

"Part of doing the work yourself is deciding to stay small, which I have decided to do. I don't want to go out, hire programmers and office people to work for me, and make millions. I want to give good service on the programs I have sold. I want to continue to think about new uses for the personal computer, and I even want to write the advertising. Some software companies are growing so fast that they quadruple their employees from one year to the next. Not me."

Organizing the Work

Just what tasks need to be done to get a program package on the market and in use by customers? There are four main ones: (1) writing the program; (2) putting the package together; (3) finding customers; and (4) providing service to those who buy.

Writing the Program

When Carol started writing her first program, The Complete Mailing List, she had no idea about how to get it on the market or how to make money from it. She did, however, know about the mailing problems that many small businesses have. And she knew how to write a good program. Here is what occupied her evenings and weekends for the year and a half that it took to complete the program.

Define the problem. It took Carol two months to design a program that would solve mailing list needs for a variety of users. She wanted the program to be good for a person without any computer experience. If the users entered incorrect data, Carol wanted the program to tell them why the data were incorrect and how to change the input. She wanted "format-free" data input so the user would not be bound by a lot of rules just to enter the addresses. In programming language, she was deciding input and process.

Research the problem. There were lots of mailing list programs already on the market. Carol had used two of them in her work. That was part of the reason she decided to try to write one of her own. She went through all the successful ones to make sure that hers would offer more choices and be easier to use. She also spent time looking up software literature. There are many indexes of available algorithms, just like indexes of different books. An algorithm is a problem-solving series of

operations. You can think of it as a "recipe." If there was an existing algorithm, Carol wanted to use it. This task took three weeks.

Diagram the solution. With all this information Carol could now organize her program. She could write the steps the computer would go through to get the desired output. This is known as writing an outline and drawing a flow chart. This took another three months.

Code the program. This is what most people think of when they program. It is actually writing the specific instructions that the computer will follow. This activity took six months to complete.

Test the program. Every program has bugs in it. That is why testing the program is called "debugging." While it is impossible to check for every possibility, Carol ran good data and bad data. She also ran a combination of both to see what her program would do with the input. She had it tested with several people who had never used computers before but wanted to incorporate them in their businesses. The testing period took another six months.

Putting the Package Together

When Carol was finally convinced that her program was a good one, she wrote the manual. This is what the user needs to know to run the program. This is where Carol first learned about advertising and marketing. The manual is the only thing the user can "hold" in his or her hand. For some people, it is more real than the program itself. Even though your program may be great, you will want your manual to look as professional as possible.

Carol designed a small looseleaf notebook with a pocket in the back for the guarentee. She also designed a cardboard reference card for the user who understands the program but may forget the formatting commands.

Between writing the manual, laying out the pictures and the typing, making arrangements with the printer, and designing the cover, Carol and Claudelle worked about two months.

Arranging the Distribution

Carol and Claudelle distributed The Complete Mailing List together. They wrote the ad for the computer magazines and the fliers for the computer stores. In addition, they called the ad departments to get prices and format requirements. This work took about one month.

Carol also attended two computer fairs and sent her flier to more than 200 computer clubs across the country.

Orders for the program started arriving--slowly at first, perhaps one or two per store. Within two months she was getting re-orders from some stores. This became an on-going process. Every morning Claudelle would spend at least one hour packaging and boxing the programs, typing the bills, and doing other bookkeeping.

Providing User Service

A program cannot ever be tested in every imaginable situation. Users may do something the programmer never thought possible. Thus, a good software company will offer complete service and user updates. This means that Carol has to be available to the people who bought The Complete Mailing List to answer what sometimes may seem like silly questions. At other times she learns from her users how the program can be improved. She writes "updates," short letters to the users about how to make the program do more and how to avoid certain mistakes others have made. In them she includes the information given to her by the users.

What the Day Looks Like--the Great Juggling Act

Deciding which of the many tasks should be done first is one of the hardest jobs of being an owner. Even with just one employee, Carol had to figure out how she was going to divide the work. Here is a list of rules, or a daily checklist that she came up with. It was based on her most productive time, the abilities of her employee, and the time schedule of the businesses she deals with.

Morning

Claudelle - Check calendar for the entire week. Meet all advertising and trade show deadlines.

Claudelle - Process all incoming orders. Write invoices and send programs.

Claudelle - Answer all service calls. Refer to Carol only those calls that are emergencies.

Carol - Work until noon on programming, debugging, developing new projects.

Afternoon

Claudelle - Work on advertising, layout, etc.

Carol - Write letters, schedule appointments with computer stores, distributors, etc.

Carol - Answer service calls.

Many things interrupted this routine. Yet, it was the "standard" schedule used, and it allowed Carol to use the morning for creative work. This was her best time to think.

Summary

These are the tasks to be done to get a program on the market: write the program; get the package together; arrange the distribution; and provide the service. To help you in your everyday work, it is a good idea to arrange some kind of schedule for yourself and for your employees based on time needs, ability, and business schedules.

Learning Activities

Individual Activities

1. List the five steps in designing a program.

2. Carol spent three weeks looking up existing algorithms. What are algorithms? Why was this a good idea?

3. Why do you think Carol tested her program with a combination of good and bad data in one input?

4. Claudelle answers most service calls in the morning. Carol answers most of them in the afternoon. Can you think of at least two reasons why this is a good idea for them?

5. Why do you think Carol told Claudelle to check the calendar for deadlines first thing every day?

Discussion Questions

1. Programmers will tell you not to take out advertising space before a programming package is complete. Looking at the amount of time Carol spent testing The Complete Mailing List, can you tell why they give this advice?

2. One expert programmer gives the advice of keeping a programming diary. In it you would write the time you spent on each part of the programming, the reference tools you used, and an explanation for each program segment. How do you think this might be helpful?

Group Activity

Here is a list of some of the tasks Carol had to do in one week. (Imagine that they all took approximately the same amount of time.) Because of illness, she only had three working days. She had to postpone three tasks until the following week. Choose which three would make the most sense to postpone. Next decide in which order the other tasks should be done. Defend your answers to the group.

1. Read the morning mail for the days she was sick
2. Talk over the advertising strategy on the latest program with Claudelle
3. Talk with the landlord about the recent rent hike
4. Return call to a dealer who didn't get her latest shipment
5. Return call to print shop; printer cannot get the kind of paper Carol wants for the new manual
6. Work out some of the final details for the latest program
7. Write the paycheck for Claudelle
8. Order new invoices (she is down to her last 20)
9. Call a new computer newspaper about advertising costs

UNIT 6

Setting Prices

Goal: To help you set prices for your programs.

Objective 1: List three things to consider in setting prices for your programs.

Objective 2: List two reasons to charge higher prices.

JUST WHAT IS A GOOD PROGRAM WORTH?

Carol gets a funny look on her face when she talks about setting prices. "Setting prices in this business is really crazy. In other businesses there is a certain cost of running the business. The product that is manufactured is sold for maybe twice as much as it costs to make it.

"This business is very much like the book publishing business. You have to set your price according to the going rate, not according to how much you think it's worth. The going rate is the amount that people will pay. For example, the going rate for a paperback might be $3 to $5. How much money the publisher makes depends on how good the book is. The publisher can't expect one reader to pay the writer and the publisher the entire amount it cost to get that book published. Both the writer and the publisher take a gamble that the book will sell enough copies to make the cost of producing the book plus a good profit.

"A good business package like The Inventory, with 20 programs in it, will go for about $150. But remember, this program will take care of keeping track of all the inventory for a small business or a large department of a corporation. The little computer games that are sold for home use go for $20 to $30.

"To make matters worse, as there are more programs on the market, the price will go down. But as computers become more popular, you will also be able to sell more programs.

"A lot of people don't take the time to find out if their program is good. They just write one and sit back, expecting to collect a lot of money. It's not that simple. You are really gambling. You have to be ready to suffer some losses as the market changes.

"I did what I thought was a great medical accounting package. It was going to help doctors with their billing. When I tested it with a billing clerk, she much preferred the program she was using. Three other clerks felt the same way. They all said that my data entry system was too complicated. Eventually I decided to scrap the whole thing. Six months' work--down the drain."

Setting Prices

You have a great computer chess game. This one is different from the others in the field because it can switch sides with you and can play at five different levels. Also included in it are great championship chess problems. How do you set a price for it?

The Questions to Ask

All design company owners goes about setting prices for their software programs in a different way. Everyone, however, wants to make enough money to stay in business and go to a movie once in a while. These are the four most important questions to ask in determining prices.

- What do others charge for similar programs?
- Who will be the users of this program?
- What are your expenses?
- What will be your arrangements with the store owners or the distributors?

What Do Others Charge?--What Will the Market Bear?

Go to your local computer store and look at the chess and other games available. If they sell for about $ 5, you are not going to be able to ask much more than that unless your game is very special.

Who Will Be the Users of This Program?--What is Your Targeted Market?

The users of your chess program can be all the people who own a personal computer. Many of these people paid under $1,000 for their

computer. Your targeted market is not large corporations, doctors, or tax accountants. If you want your program to sell well, you have to price it accordingly.

Let's say you have devised an accounting program that will replace three billing clerks, four mailroom assistants, and two secretaries for a large drug company. You can charge a lot for this kind of program. Three hundred to four hundred dollars is not unusual for such a program.

What Are Your Expenses?--What Is Your Break-Even Point?

Every business has bills. Just what does it cost for you to be sitting at your computer every month? How much do you spend on advertising? On mailings? What about the cost of your answering service?

When you set a price for a particular program, find out how much it cost you to get that program out. Then you will be able to figure what your break-even point is. The break-even point is the amount you have to bring in from sales just to cover all your costs. This will give you an idea of how many copies of a program you'll need to sell before you start making a profit.

It took Carol a year and a half of weekends and evenings to write The Complete Mailing List. She decided that would be about six months if she worked full-time. Here is a list of expenses for that six-month period of time.

Rent on the garage (she took 1/4 of the rent of her house and multipied it by 6 for 6 months)	$ 450
Salary for part-time assistant ($100/week for 24 weeks)	2,400
Answering service for 6 months	180
Printing costs of flier and manual	150
Paper and supplies	100
Telephone	60
Packaging and mailing	80
TOTAL	$3,420

When Carol added all her expenses, she realized it cost her $3,420 to write her program. That did not include any salary for her. Adding $1,000/month for her salary, she figured that her program had to make almost $10,000 to be considered a success. How many programs would she have to sell at what price to bring in that much money? She figured $150 was the most she could charge and still attract customers. At $150 each, the program had to sell at least 65 copies. The 65 copies became a magic figure when talking to dealers and distributors. Once that number was reached, the money from the rest of the units sold would become profit.

What Will Be Your Arrangements with the Store Owner?

When pricing, you must also remember your arrangements with the store owner. Usually a store owner gets between 25% and 40% of the asking (or retail) price of the package. That is called the "price break." If you give your program to distributors, they get 10% of the price you are asking as payment for their services.

Riding on the Price Elevator

Going up. You can charge a higher price for your programs if you have prestige and a particularly good reputation. What gives you a good reputation? Writing good programs will do it. Once you have a group of

users who are pleased with one of your programs, you can charge more for your next one. If your program is the first of its kind to take care of a particular problem, you can charge more for that. If your program is particularly easy to use, you can charge more than for a similar program that is more difficult. In other words, if your program is in any way special, you can charge extra for its special features.

Going down. Your program may become obsolete. There may be lots of other programs similar to yours. The number of computers being sold may go down. Then you won't be able to get as much for your program. The general state of the economy may be such that people are not buying your particular type of program. Then you must make the price low enough so some users will be tempted to buy.

Summary

Setting prices depends on: (a) what others charge; (b) who the users will be; (c) what your expenses are; and (d) what your arrangements with dealers and distributors are. The price can go up if your program is special. The price will go down if there is a lot of similar programs on the market or if people are simply not buying.

Learning Activities

Individual Activities

1. What is the break-even point?

2. Why does the targeted market have an influence on a program's price?

3. What are two reasons to charge more for your program?

4. What is the "price-break"?

Discussion Questions

1. It has been said that pricing in the software business is very unpredictable. Can you come up with some reasons for this?

2. Some software companies have tried to offer the lowest possible prices. What type of market will turn away from these programs just because of their low prices?

Group Activity

Split into three groups. Have each group be in charge of a different type of program:

1. educational;
2. games; and
3. business-related.

Look at ads in computer magazines and discuss various prices advertised in them. Are any of them much more expensive than the rest? Can you guess how the various prices were set? How much does reputation of the company enter into pricing?

UNIT 7

Advertising and Selling

Goal: To help you learn different ways to advertise your business.

Objective 1: List the five steps in getting a program into the hands of the user.

Objective 2: Pick a good way to advertise computer programs.

Objective 3: Design a trade magazine ad for a program.

GETTING THE WORD OUT

For Carol, advertising and selling were the most difficult skills to learn.

"The software business is much like the jewelery business. I learned this from friends who make gold cast earrings. You have to find stores who will sell your product. Or you have to find distributors who have contacts all across the country and will promote your stuff. You have to take out ads in the trade journals. For me, a programmer who really much prefers the programming end of things, going out and meeting all those people was hard at first.

"I kept thinking that someone should do this for me. Sometimes I thought that if my programs were really good, I wouldn't have to be bothered with designing an ad, or with calling up the magazines and finding out advertising rates. People would call me once the word got out that I had a good program. You know the saying, 'Build a better mousetrap and the world will beat a path to your door.' That's how I thought it should be.

"It wasn't. I found that in order to sell programs, I had to talk to people about them. I spent two hours demonstrating the finer points of The Complete Mailing List to one dealer. I spent the better part of two weeks designing the flier for a stock market program. I spent two mornings on the telephone arranging a booth at the West Coast Computer Faire.

"But I learned. Some silly reporter called me a week ago for an interview about what it's like to conduct a business from your home. At first I was going to say no, thinking that it was just going to waste my time. It was my assistant who convinced me that a little free publicity wouldn't hurt. I did get one phone call from someone interested in my programs just from that article."

Advertising and Selling

To Market . . . to Market . . .

Every company needs people to buy its products. Computer programs can take different routes to get into the hands of users. Here are the basic steps.

1. Create the program and write the user's manual (also called documentation).
2. Manufacture the diskette or tape and the manual. Get the package ready for mailing.
3. Sell the package to computer stores (at the wholesale price).
4. Sell the package to individual users (at the retail price).

Some programmers stop at step one. They want nothing more to do with the program except to sit back and collect "royalties." Royalties are a certain percentage of the retail price--usually about 10%. For every step the programmer turns over to someone else, he or she has to give up a share of the retail price. If you decide that you would like to stop at step one, you would find a publisher to manufacture the completed package and distribute it to computer stores (steps two and three).

You may want to get the package together yourself (step two). You may want the program to look a certain way when it gets on the shelf. You may want to order the notebooks or print the manual in a certain style. But suppose you want nothing to do with going out and getting it into the stores (step three). In that case, you would need a distributor who has contacts over a large area (sometimes covering the entire country). The distributor would contact the stores for you. For that, he or she would get about 10% to 15% of the retail price.

If you decide to do the first three steps, you'll get more of the profits. You will have to contact the stores yourself; you can make deals in which you would get to keep 60% to 75% of the retail price.

A few software companies don't even bother with computer stores. They sell only through computer magazines and newspapers (step four). You can try that also.

If you decide to do all four steps yourself--develop, manufacture, and distribute your programs--as Carol did, you will need to know some advertising techniques.

An Ad in the Trade Magazines

"The trades" are magazines that deal only in computer hardware and software. Most of these magazines are less than 10 years old. Byte is the oldest. Others include Creative Computing, People's Computer, and Personal Computing. There are also newspapers like InfoWorld that are aimed at computer users.

These are the common parts of an ad:

headline--the largest letters are eye-catching;
illustration--a drawing, also known as the "visuals;"
copy--the words you use;
layout--how you arrange the ad; and
identification--the name of your company and where the software can be obtained.

In your ads you must tell people:

the name of your company and your program;
the problems your program is designed to take care of;
the technical specifications (also known as the "specs"):
specs indicate which computer the program can be used with, which language is necessary for programming, and what kind of input is required for what kind of output; and

the unique features (how wonderful the program is; how special and easy this program is to use).

The Press Release

Whenever you develop a new software program, there is a way to get free advertising. And that is to issue a press release. It is sort of a "birth announcement" that you send to all the trade magazines. You include a copy of the program so that their reviewers can run the program. Then they will give readers their opinion of your program in a column or article about "New Software." Hopefully, you will get a good review.

Direct Mail

Direct mail is advertising that you send out through the mail. It can be a brochure, a letter, or even a postcard. Carol was going to send out a letter announcing her new stock market program when she found out how cheap newsprint (the paper that newspapers are printed on) is. She designed and wrote an eight-page newspaper and sent it to all her present users and store owners. In fact, she had 2,000 copies printed so she could send them out anytime someone wanted a catalogue.

Computer Clubs and Computer Fairs

Computer clubs are much like CB radio clubs. People get together and share ideas about their home computers. To spread the word about your programs, you can write or visit them.

You can also set up a booth to show off your product at computer fairs such as the West Coast Computer Faire or Computerland's dealer convention. This will probably involve traveling. You will want to include money for this in your budget.

Summary

There are four steps to getting your program into the hands of users: designing the program and writing the manual; manufacturing the diskette or program; selling it to the computer stores; and selling it to individual users. Advertising possibilities for computer software include putting ads in trade magazines, writing press releases, sending out direct mail advertising, and making contacts with computer clubs and computer fairs.

Learning Activities

Individual Activities

1. List the four steps you have to take to get your program into the hands of a user.

2. If you decide that you want to do only step one, whom would you need to contact to take care of the rest for you?

3. What does a distributor do, and how much does he or she get paid to do it?

4. What is the "copy" of an ad?

5. What is a press release?

Discussion Questions

1. Bring in several ads for different computer programs. Which ads do you feel are good? Which ones are not? From your opinions, decide as a class what makes an ad good?

2. Most advertising assumes that the "general public" knows something about the product and how it can help them live a better, happier, easier life. Advertisements do not, for example, have to tell consumers that they need toothpaste. They only have to convince consumers that their toothpaste is the best. Discuss why this is not true for computer programs. How would you go about educating the public about the use of computers in general?

Group Activity

Develop a half-page ad for a computer program (for example, the product you designed in Unit 1). It should include all the parts of an ad--the headline, illustration, copy, layout, and identification. Include artwork--it doesn't have to be professional. Don't forget to use color and be splashy and eye-catching. Experiment with different borders and different kinds of letters.

UNIT 8

Keeping Financial Records

Goal: To help you learn how to keep financial records for your company.

Objective 1: Fill out a bill for a customer.

Objective 2: Fill out a daily cash sheet that records money coming in and going out of the business.

68

KEEPING FINANCIAL RECORDS

Carol gets down to the business part of the company. "You would be surprised at how much paperwork I have to take care of. Look at my checkbook. First there are all the supplies I've bought--the diskettes and tapes, the newsprint, the notebooks. I have to write a payroll check to Claudelle. You have to keep an accurate checkbook or you will be bouncing checks--not to mention having quite a few people angry with you.

"Most people hate keeping records, writing out the bills for the computer stores, and keeping track of money coming in and going out. I do it on the computer--why not? The program I have allows me to just plug in the numbers. It is programmed to make out the monthly balance sheets (a list of income and outgo for the month) showing how much I pay my workers and how much I paid for my supplies--even down to the last paperclip!

"When you pay attention to the books, you learn a lot about how successful your business is. I keep track of every deal I make with the computer stores. I also keep a record of how much each diskette costs. You can buy them for $3 to $5. Usually the more expensive ones are better quality, but not always. Sometimes you can make a deal with the supplier. If I didn't keep track of this, how would I know if a certain price is a good one?"

Keeping Financial Records

Keeping financial records is a must for any business. It begins before you produce your first program. In this section you will learn how to bill your customers so you can get paid for your programs. You will also learn how to complete a cash sheet, which records the money coming in and the bills paid on a given day. That does not cover all the records you will keep, but it will give you an idea of what it is like.

How to Bill a Computer Store

Whenever you send out a shipment of programs to a store, you will include an invoice. This is a statement to the store owner telling her or him what was sent, when it was sent, and how much it costs. Many companies also use the invoices as their bill.

Computer Ways, a store Carol sells to regularly, ordered eight copies of The Complete Mailing List. The two different prices that might be listed on the bill are:

- the wholesale price--the amount Computer Ways is going to pay to Carol's Slick Software for each program package; and
- the list price--the price that Slick Software suggests to Computer Ways to charge to its customers. This is also called the "suggested retail price." Carol needs to do this so store owners will know what advertisements say the program costs, then they can offer discounts.

Here is a copy of Computer Ways' bill.

CUSTOMER BILLING FORM

Customer: Computer Ways

Payment Due Date: _____

Date Sent	Amt.	Item	Wholesale Price	Amount Charged	Payment Received	Balance Due
4/6	8	Complete Mailing List	$60	$480		$480
		(Suggested List $100)				

To Give Credit or Not to Give Credit?--That Is the Question

Some distributors will want to pay you "upon delivery" of your programs or C.O.D. (Cash on Delivery). Many stores will prefer to pay you at the end of the month. In either case, you are giving credit because you are delivering the product before you receive payment.

The advantage of giving credit is that it develops good relations with the people who sell your programs for you. They prefer to keep their money as long as possible. They like to be able to sell your program to their customers and then pay you out of the money they have received. Whether to give credit is one issue you will have to decide for yourself. Carol decided not to extend credit to Computer Ways until she had received at least three orders from the store.

Easy Come, Easy Go--the Daily Cash Sheet

If all goes well, you will be receiving money for new orders. Some people will pay C.O.D. Others you extend credit to will send you checks in the mail at the end of the month. You should keep a daily record of all the money that comes in from sales.

On the other hand, you will also have to pay your own bills. While you may not do this every day, you will be doing it throughout the month. Your telephone bill will be due one day, and your rent will be due on a different day. You will have to pay your printing costs when you pick up your manuals or fliers.

The daily cash sheet is filled out at the end of every business day. You clear out the money and checks in your locked drawer, get your business checkbook in hand, and fill out the following form. On April 7 Carol received these checks for past credit sales.

Computer Ways	$480
Arnold Johnson	200
Total	$680

She looked in her checkbook. These are the checks she made out for the day.

Sally Woods (landlady)	$300
Compuparts (diskettes)	125
Claudelle Burns (salary)	180
Printers, Inc.	50
	$655

This is what Carol's cash sheet looked like.

DAILY CASH SHEET		Date: 4/7	
Cash Receipts		Cash Payments	
Credit Sales	$680.00	Salaries	$180.00
		Building Expenses	300.00
		Equipment and Furniture	
		Inventory or Supplies	125.00
		Advertising	50.00
		Other	
TOTAL CASH RECEIPTS	$680.00	TOTAL CASH PAYMENTS	$655.00

If you look at this, it seems that Carol is making only $25 a day! Most businesses, however, do not look at their profits on a day-to-day basis. For that, Carol would have to look at her yearly profit/loss statement. That is in the next unit. She will use her daily cash sheets to help her keep monthly and yearly records.

Summary

Keeping financial records is important so that you will know how successful your company is. The bill sent to the stores that carry your product has to include what is sent, when it was sent, and how much it costs. You will have to decide whether you are going to extend credit to these stores. The daily cash sheet keeps track of the flow of money into and out of your business every day.

Learning Activities

Individual Activities

1. Why do you think Carol does not give credit until the third order from a computer store?

2. If a store ordered three copies of The Complete Mailing List (which has a retail price of $100) and Carol gave it a price break of 30%, how much would the store pay for each copy? How much would it pay altogether?

3. Here is the information for a bill that Carol sent out to The Total Computer, a store that Carol has been dealing with for six months. It ordered 10 copies of The Complete Mailing List with a 40% price break. Carol sent out the order on April 10 and will extend credit until the end of the month.

CUSTOMER BILLING FORM

Customer: _____

Payment Due Date: _____

Date Sent	Amt.	Item	Wholesale Price	Amount Charged	Payment Received	Balance Due

4. Here are the money transactions Carol had for April 15. Checks received on past credit sales:

Alan Bekins	$100
Amy Blethen	100
Computer Whiz, Inc.	280

Checks paid:

The Computer Store (for a printer)	$450
Printers, Inc. (advertising fliers)	25

Fill out the following daily cash sheet.

Date: DAILY CASH SHEET			
Cash Receipts		Cash Payments	
Credit Sales	_____	Salaries	_____
		Building Expenses	_____
		Equipment and Furniture	_____
		Inventory or Supplies	_____
		Advertising	_____
		Other	_____
TOTAL CASH RECEIPTS	_____	TOTAL CASH PAYMENTS	_____

Discussion Questions

1. Many times stores are given credit or not given credit based on people's prejudices. Female and minority store owners have had a particularly hard time obtaining credit. What effect do you think being refused credit has on people?

2. Although Carol has told stores that she will extend credit to them after the first three orders, one new store has been calling every day to try to place an order on credit. What advice would you give Carol? Should she take the order?

Group Activity

The forms used in this unit are only a small sample of the records small business owners are required to keep. As a group, list how many other forms an owner would have to fill out to keep a business running.

UNIT 9

Keeping Your Business Successful

Goal: To help you learn how to keep your business "in the black."

Objective 1: Figure out the net profit, profit ratio, ratio, and expense ratio after being given a specific business situation.

Objective 2: State one way to increase profits in a business that is losing money.

Objective 3: State one way to increase the number of clients you have by changing or improving your service.

AM I GOING TO MAKE IT?

Carol talks about being profitable. "You know, it's very exciting to get that first check. No matter how small it is, you have that feeling that you're successful--that your business is going to make it. If your employees are busy and you're rushing to meet deadlines, you never stop to think about whether you are making a profit.

"But profit is a strange thing. You can produce a lot of programs, be busy all the time, and still not make a profit. What's worse, you may not even know that you're losing money! Hard work does not guarantee a successful business. Only by keeping really good records of the money coming in and going out can you begin to make the right decisions.

"The year my profit ratio went down I was really surprised. The Complete Mailing List had sold over 900 copies, and I was worse off than the year it sold only 720 copies. Does that sound impossible? All of my expenses had risen so drastically that they cut way into my profits. In terms of percentage, more of my income was going into paying the bills and less was going into profit. Most people think that you have to raise prices to make more money. But there are lots of other things to do besides that.

"First of all, you can design a new product. You have to stay on top of the market--read the trade magazines and be familiar with new hardware. You have to do some second-guessing. I had read where more and more microcomputers were going to be used in the schools. So I decided to look into the educational market.

"My sister has cerebral palsy, and through one of her teachers I learned about new developments for the handicapped. That's where I got the idea for my second program. It combines word processing with using a joy stick (instead of the typewriter keyboard). This will allow certain handicapped people who have never been able to 'write' to get words on paper!"

Keeping Your Business Successful

In this unit you will learn how to judge whether your business is successful. Obviously, if no one has ordered your latest program in three months, you're not doing very well. But as Carol found out, sometimes a "successful" business may not be making any money either.

The Profit/Loss Statement

Carol talks about her profit/loss statement. You can hope, if you open up a software design company, that your statement will show a profit rather than a loss.

A profit/loss statement includes this information:

- how much people paid you in cash and credit sales--this is called revenue; and
- how much you paid for different bills--this is called expenses.

What is net profit? It would be wonderful if you could look at all the money you made and call that your profit. But you can't. You must pay all your bills first before you think of profit. Net profit, is the money left over after you have paid all your expenses.

Net profit = revenues minus expenses (or income minus bills)

Figuring your profit ratio. Once you know your net profit--we'll assume you made money--you'll also want to look at two other figures to know just how successful your business really is. Just what percent of your income ended up as profit, and what percent ended up going for expenses? Let's look at Carol's profit/loss statement and compute her profit ratio and expense ratio. You can think of it like this:

TWO-YEAR PROFIT/LOSS STATEMENT		
	Year 2	Year 3
Revenues		
Cash Sales	$30,000	$30,000
Credit Sales	20,000	30,000
TOTAL	$50,000	$60,000
Cost of Goods Sold	7,000	8,000
Gross Profit	$43,000	$52,000
Expenses		
Salaries	$11,000	$12,500
Building Expenses	1,000	1,500
Supplies	2,000	4,000
Advertising	4,000	5,000
Other	2,000	4,000
TOTAL	$20,000	$27,000
Net Profit	$23,000	$25,000

Carol's profit and expense ratios were as follows:

		Year 2	Year 3
Profit ratio =	$\frac{\text{Net profit}}{\text{Revenues}}$	$\frac{\$23,000}{\$50,000} = 46\%$	$\frac{\$25,000}{\$60,000} = 42\%$
Expense ratio =	$\frac{\text{Expenses}}{\text{Revenues}}$	$\frac{\$20,000}{\$50,000} = 40\%$	$\frac{\$27,000}{\$60,000} = 45\%$

Carol's goal was to increase her revenues and her profits a little each year and to keep her profit ratio steady. She did earn more income and profit in Year 3, but her profit ratio went down. This was because Carol's expenses were rising faster than her revenues. If you compare her expenses from Year 2 to Year 3, you will see that she paid more money for:

Salaries
Rent + Utilities
Legal Advice (other)
Supplies
Advertising

In fact, most of her expenses increased. If the economy is suffering from general inflation, this often occurs. Unexpected expenses come up from time to time, too. For example, Carol spent $2,000 on a lawyer in Year 3 to prosecute a computer club that was pirating her programs.

How to change your profits. There are four ways to make your profits higher:

- add new products;
- increase your number of sales;
- raise your prices; or
- lower your expenses.

Each one of these takes a lot of thinking and means taking some risks.

Adding New Products

Many software design companies specialize. Since some have been successful writing programs for games like checkers or space wars, they just go on developing more games. Others stick mostly with business programs--like mailing lists or accounting programs.

Carol decided to develop a program for people who can't operate the keyboard--a program completely different from The Complete Mailing List.

For each new program you decide to write you will have to think about:

- your skills and experience (how much new information will you have to learn?)
- your interest (spending two years on a new program is not unusual--your interest level should be high!);
- the competition (if you do decide to do another space war game, it had better be terrific); and
- your old users (if you already have people who are buying your programs, you may have a ready market of users who like what you do).

Increasing your number of sales means doing more advertising and selling.. It probably means investing more money. There's a saying--it takes money to make money. This is an example of how true it is. You will spend a lot more on advertising, booths at computer trade shows, and fliers. In terms of time, you will be visiting more computer stores and making more personal contacts. Perhaps you will meet with distributors to see if it is worth letting them handle the sales.

Raising your prices always seems like the quickest and easiest method of raising your profit ratio. It is not that simple. You may lose customers if your prices increase.

Reducing your expenses is a third way to increase your profit ratio. To do this you have to look at each and every expense--particularly the big expenses.

Salary and equipment are big expenses. These are the questions to ask yourself:

1. Can you hire people for less money without hurting the kind of service you are giving?
2. How much are you paying for supplies--paper, diskettes, etc.? Can you find a wholesale outlet that will give you a discount? Perhaps if the bulk rate for paper is too much volume for you, you could team up with a printer and place your order with him or her.

The smaller expenses are harder to decrease, but they should be looked over for possibilities.

Summary

Having a lot of income does not necessarily mean your business is making a profit. The profit/loss statement includes your revenues and all your expenses. Net profit is how much you took in minus how much you paid in bills and losses. You can increase your profits by adding new products, increasing your number of sales, raising your prices, or lowering your expenses.

Learning Activities

Individual Activities

1. Here is a profit/loss statement for Business Software Systems. Compute the net profit (in dollars), the profit ratio (in percent), and the expense ratio (in percent).

TWO-YEAR PROFIT/LOSS STATEMENT				
	Year 1		Year 2	
Revenues	$50,000	100%	$60,000	100%
Cost of Goods Sold	10,000		12,000	
Gross Profit	$40,000		$48,000	
Expenses	23,000	___%	24,000	___%
Net Profit	$_____	___%	$_____	___%

2. Which was a better year for Business Software Systems?

3. Name two ways to increase your profits.

Discussion Questions

1. Carol heard of an advertising consultant in the area who charges $100 an hour to come to an office to make advertising suggestions for computer-related companies like Carol's. Carol hears this woman is particularly good. Do you think she should hire her for a couple of hours of advice? The consultant says it usually takes her about three hours to complete the work.

2. Carol's husband Herb wants Carol to get out of the business. He claims that since her profit ratio went down from her second to her third year of business, she isn't much of a businessperson. Pretty soon, he tells her, she'll be losing money. What advice would you give Carol? How much does it matter that Carol is losing support from her husband?

3. Carol has heard that there is some prejudice against women having businesses in her area. Whether or not this is true, how do you think it affects Carol's ability to make decisions about her business?

Group Activity

As a class, write down a list of at least 20 different activities that you would have to do if you were going to be the owner of a software design company. Here are some examples to get you started:

Interview people to work for you
Order paper and diskettes

After you have your list, see how you feel about doing each activity. Give yourself three points if you would enjoy doing that activity, two points if you would not mind doing it, one point if you would do it but would not like it, and 0 if you would not do it, no matter what! There are no "correct" answers. It is an exercise for you to see if owning a software design company might be for you.

SUMMARY

This module has been about owning a software design company. People with training in computer programming can start software design companies.

To start a small business, you need to do lots of planning. First you have to be sure that owning a small business is right for you. Then you have to decide what services to offer, how to compete, and what legal requirements to meet.

You have to pick a good location--one where you are comfortable and where you have access to other computer businesses. Then you have to get money to start. That involves figuring out how much you'll need and showing investors that your idea is a good one.

Being in charge means hiring good workers and training them. Then you must keep track of your workers' job performance.

Setting prices means figuring out the lowest price you can charge to meet your expenses and the highest price you can charge and still be competitive. To do this, you need information on your expenses and on your competition's prices.

Advertising and selling are the ways you get customers. Advertising possibilities include putting ads in trade magazines, writing press releases, sending out direct mail advertising, and making contact with computer clubs and computer fairs.

You should keep good financial records so you will know how your business is doing. Then you can decide if you can expand your business or if you need to cut it back.

In order to own and operate a successful software design company, you need training in computer programming, work experience, and the special business management skills we have covered in this module. If you have not had a course in computer programming, you should take one before deciding to own a software design company. You can learn business management skills through business classes, work experience, or by using the advice and example of an expert.

You may not make a lot of money by owning a software design company. However, you will have the personal satisfaction of being responsible for your business and making your own decisions. Think about how important these things are to you in considering whether you should start your own software design company.

QUIZ

1. Give three examples of products your software design company might sell.

   a. _____

   b. _____

   c. _____

2. Which statement best describes how to start a software design business?

   a. When you decide to go into business, it is best to quit your job right away so you can devote all your to software design.

   b. You probably should hire at least one person right away to help you with the business end of things.

   c. When you first start your business, you may want to work alone in a small office.

3. List three steps involved in the process of getting a computer program to market.

   a. _____

   b. _____

   c. _____

4. List three skills the owner of a software design company should have.

   a. _____

   b. _____

   c. _____

5. Working out of one's home may not be a good idea because:
   a. you won't have much of a "business image."
   b. the computers take up so much room.
   c. you will have lots of distractions.

6. Which statement about choosing a business location is most true?
   a. You can do your work anywhere, but being near areas that are computer centers is helpful.
   b. You should locate your business near a university so that teachers of computer science can check your work.
   c. You should locate in a good office building so you will have contacts with other small businesses.

7. Which of the following should you include in your business description?
   a. What your targeted market will be
   b. Whether or not you are married
   c. Your previous year's income

8. List three main parts of a statement of financial need.
   a. _____
   b. _____
   c. _____

9. Which information would you need to put into a job description?
   a. Salary and hours
   b. Personality type, age, and sex wanted
   c. Directions to your home for the interview

10. Which of the following would probably be the first full-time job you'd fill in your software design company?
   a. Computer programmer
   b. Accountant
   c. General office worker
   d. Computer repair person

11. What is user service?

a. It is the information customers provide concerning how well the program works.

b. It is answering the questions users might have when running the program.

c. It is offering classes in programming design.

12. List three major start-up expenses for a software design company.

a. _____

b. _____

c. _____

13. What is a "price break"?

a. The amount of money you need to break even

b. The percentage of the retail price that the store owners have to pay

c. A discount that retailers give their customers

14. What is a press release?

a. The announcement and free copy of your program sent to trade magazines

b. A device on your program so it can't be copied

c. A part of the manual that shows how to begin the program

15. Which of the following is probably the least effective way to advertise your new computer program?

a. Print your business' name on the side of your car

b. Send a flier to computer clubs

c. Set up a display at a computer fair

16. Which of the following role(s) does the owner of a software design company have?
    a. Author
    b. Publisher
    c. Salesperson
    d. All of the above

17. The daily cash sheet gives you an idea of:
    a. what your revenues are.
    b. what your credit customers owe.
    c. what your profits are.
    d. what your expense ratio is.

18. Which price does the store owner selling your program pay to you?
    a. The wholesale price
    b. The list price
    c. The discounted price

19. Which of the following is the most reliable sign of a healthy business?
    a. Rising revenues
    b. Rising profits
    c. Rising prices
    d. Rising expense ratio

20. List two things Carol can do to increase revenues in her software design business.
    a. _____
    b. _____

GPO 791-760/278

PROJECT PRODUCTS

Entrepreneurship Training Components

Vocational Discipline	Module Number and Title
General	Module 1 - Getting Down to Business: What's It All About?
Agriculture	Module 2 - Farm Equipment Repair
	Module 3 - Tree Service
	Module 4 - Garden Center
	Module 5 - Fertilizer and Pesticide Service
	Module 6 - Dairy Farming
Marketing and Distribution	Module 7 - Apparel Store
	Module 8 - Specialty Food Store
	Module 9 - Travel Agency
	Module 10 - Bicycle Store
	Module 11 - Flower and Plant Store
	Module 12 - Business and Personal Service
	Module 13 - Innkeeping
Health	Module 14 - Nursing Service
	Module 15 - Wheelchair Transportation Service
	Module 16 - Health Spa
Business and Office	Module 17 - Answering Service
	Module 18 - Secretarial Service
	Module 19 - Bookkeeping Service
	Module 20 - Software Design Company
	Module 21 - Word Processing Service
Occupational Home Economics	Module 22 - Restaurant Business
	Module 23 - Day Care Center
	Module 24 - Housecleaning Service
	Module 25 - Sewing Service
	Module 26 - Home Attendant Service
Technical	Module 27 - Guard Service
	Module 28 - Pest Control Service
	Module 29 - Energy Specialist Service
Trades and Industry	Module 30 - Hair Styling Shop
	Module 31 - Auto Repair Shop
	Module 32 - Welding Business
	Module 33 - Construction Electrician Business
	Module 34 - Carpentry Business
	Module 35 - Plumbing Business
	Module 36 - Air Conditioning and Heating Service

Related Resources

Resource Guide of Existing Entrepreneurship Materials

Handbook on Utilization of the Entrepreneurship Training Components